

WHAT IS CLAIMED IS:

1. A pharmaceutical composition comprising one or more peptides selected from the group consisting of:

- a) a peptide having the sequence of any of SEQ ID NO:1 to SEQ ID NO:36;
- b) a peptide homologous to any one of SEQ ID NO:1 to SEQ ID NO:36 from another flavivirus; and
- c) a peptide functionally equivalent to any one of SEQ ID NO:1 to SEQ ID NO:36, wherein the functionally equivalent peptide is identical to at least one of SEQ ID NO:1 to SEQ ID NO:36 except that one or more amino acid residues has been substituted with a homologous amino acid, resulting in a functionally silent change, or one or more amino acids has been deleted.

2. A pharmaceutical composition comprising at least one peptide selected from the one or more of the following:

- a) a peptide having the amino acid sequence one or more of SEQ ID NO:1 to SEQ ID NO:36, wherein the N-terminal "Xaa" is an amino group and the C-terminal "Xaa" is a carboxyl group;
- b) a peptide having the sequence of any of SEQ ID NO:1 to SEQ ID NO:36, wherein the N-terminal "Xaa" is not an amino group and/or the C-terminal "Xaa" is not a carboxyl group, wherein the N-terminal "Xaa" is selected from the group consisting of: an acetyl group, a hydrophobic group, carbobenzoyl group, dansyl group, a t-butyloxycarbonyl group, or a macromolecular carrier group, and/or wherein the C-terminal "Xaa" is selected from the group consisting of an amido group, a hydrophobic group, t-butyloxycarbonyl group or a macromolecular group;
- c) a peptide having the sequence of any of SEQ ID NO:1 to SEQ ID NO:36, wherein at least one bond linking adjacent amino acid residues is a non-peptide bond;
- d) a peptide having the sequence of any of SEQ ID NO:1 to SEQ ID NO:36, wherein at least one amino acid residue is in the D-isomer configuration;
- e) a peptide as in part "a)" or "b)" except that at least one amino acid has been substituted for by a different amino acid; or
- f) a functional fragment of a peptide as set out in any of parts "a)" to "e)", having at least 3 contiguous nucleotides of any one of SEQ ID NO:1 to SEQ ID NO:36.

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3. The composition of claim 2 wherein the peptide is selected from one or more of the group consisting of SEQ ID NO:1, 2, 3, and 4.

4. The composition of claim 3 wherein the N-terminal "Xaa" is an acetyl group, a hydrophobic group a carbobenzoyl group, a dansyl group, a t-butyloxycarbonyl group, or a macromolecular carrier group; and/or the C-terminal "Xaa" is a hydrophobic group, a t-butyloxycarbonyl group or a macromolecular group.

5. The composition of claim 3 wherein the N-terminal "Xaa" is a macromolecular carrier group selected from a lipid conjugate, polyethylene glycol, or a carbohydrate; and/or the C-terminal "Xaa" is a macromolecular carrier group selected from a lipid conjugate, polyethylene glycol, or a carbohydrate.

6. The composition of claim 3 wherein at least one bond is a non-peptide bond selected from the group consisting of an imido bond, an ester bond, a hydrazine bond, a semicarbazide bond and an azo bond.

7. The composition of 3 wherein at least one amino acid is a D-isomer amino acid.

15 8. The composition of claim 3 wherein N-terminal "Xaa" is an amino group and the C-terminal "Xaa" is a carboxyl group.

9. The composition of claim 2 wherein the peptide is selected from one or more of the group consisting of SEQ ID NO:5, 13, 21, and 29.

10. The composition of claim 9 wherein the N-terminal "Xaa" is an acetyl group, a hydrophobic group a carbobenzoyl group, a dansyl group, a t-butyloxycarbonyl group, or a macromolecular carrier group; and/or the C-terminal "Xaa" is a hydrophobic group, a t-butyloxycarbonyl group or a macromolecular group.

11. The composition of claim 9 wherein the N-terminal "Xaa" is a macromolecular carrier group selected from a lipid conjugate, polyethylene glycol, or a carbohydrate; and/or the C-terminal "Xaa" is a macromolecular carrier group selected from a lipid conjugate, polyethylene glycol, or a carbohydrate.

12. The composition of claim 9 wherein at least one bond is a non-peptide bond selected from the group consisting of an imido bond, an ester bond, a hydrazine bond, a semicarbazoide bond and an azo bond.
13. The composition of claim 9 wherein at least one amino acid is a D-isomer amino acid.
- 5 14. The composition of claim 9 wherein the N-terminal "Xaa" is an amino group and the C-terminal "Xaa" is a carboxyl group.
15. The composition of claim 2 wherein the peptide is selected from one or more of the group consisting of SEQ ID NO:6–9, 14–17, 22–25, and 30–33.
- 10 16. The composition of claim 15 wherein the N-terminal "Xaa" is an acetyl group, a hydrophobic group a carbobenzoyl group, a dansyl group, a t-butyloxycarbonyl group, or a macromolecular carrier group; and/or the C-terminal "Xaa" is a hydrophobic group, a t-butyloxycarbonyl group or a macromolecular group.
- 15 17. The composition of claim 15 wherein the N-terminal "Xaa" is a macromolecular carrier group selected from a lipid conjugate, polyethylene glycol, or a carbohydrate; and/or the C-terminal "Xaa" is a macromolecular carrier group selected from a lipid conjugate, polyethylene glycol, or a carbohydrate.
18. The composition of claim 15 wherein at least one bond is a non-peptide bond selected from the group consisting of an imido bond, an ester bond, a hydrazine bond, a semicarbazoide bond and an azo bond.
- 20 19. The composition of claim 15 wherein at least one amino acid is a D-isomer amino acid.
20. The composition of claim 15 wherein the N-terminal "Xaa" is an amino group and the C-terminal "Xaa" is a carboxyl group.
21. The composition of claim 2 wherein the peptide is selected from one or more of the group consisting of SEQ ID NO:10–12, 18–20, 26–28, and 34–36.
- 25 22. The composition of claim 21 wherein the N-terminal "Xaa" is an acetyl group, a hydrophobic group a carbobenzoyl group, a dansyl group, a t-butyloxycarbonyl group, or a

macromolecular carrier group; and/or the C-terminal "Xaa" is a hydrophobic group, a t-butyloxycarbonyl group or a macromolecular group.

23. The composition of claim 21 wherein the N-terminal "Xaa" is a macromolecular carrier group selected from a lipid conjugate, polyethylene glycol, or a carbohydrate; and/or the
5 C-terminal "Xaa" is a macromolecular carrier group selected from a lipid conjugate, polyethylene glycol, or a carbohydrate.

24. The composition of claim 21 wherein at least one bond is a non-peptide bond selected from the group consisting of an imido bond, an ester bond, a hydrazine bond, a semicarbazide bond and an azo bond.

10 25. The composition of claim 21 wherein at least one amino acid is a D-isomer amino acid.

26. The composition of claim 21 wherein the N-terminal "Xaa" is an amino group and the C-terminal "Xaa" is a carboxyl group.

27. A method of treating or preventing a Flavivirus infection comprising administering to the patient an effective amount of a pharmaceutical composition according to claim 1.

15 28. A method of treating or preventing a Flavivirus infection comprising administering to the patient an effective amount of a pharmaceutical composition according to claim 2.

29. A substantially purified antibody specific for a peptide as described in claim 1.

30. A substantially purified antibody specific for a peptide as described in claim 0.